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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,870	08/05/2003	Robert Francis Squibbs	B-5189 621138-2	8940

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

HEIN, GREGORY P

ART UNIT PAPER NUMBER

2188

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/635,870	SQUIBBS, ROBERT FRANCIS	
	Examiner	Art Unit	
	Gregory P. Hein	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 7, 10 - 17, and 20 is/are rejected.
- 7) ☒ Claim(s) 8 - 9 and 18 - 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/05/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/22/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

/DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 9/22/2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the documents listed as:

Payton, D., et al., "Pheromone Robotics." HRL Laboratories, 32 pages total.

Spasojevic, M., et al., "A Study of an Augmented Museum Experience." 6 pages total.

Do not cite a publication date or a place of publication.

Additionally, the documents listed as:

Dorigo, M., et al., "Ant colonies for the traveling salesman problem." Biosystems. pp 1-10 (1997).

Payton, D., et al., "Progress in Pheromone Robotics." HRL Laboratories, 9 pages total (2001).

Do not cite complete publication dates or place of publication.

2. The information disclosure statement filed 7/28/2005 has been fully considered.
3. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 – 3, 5 – 6, 10 – 13, 15 – 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pre-Grant Publication 2003/0060973 (Mathews) and further in view of U.S. Patent 6,574,682 (Chan).

6. As per claim 1:

Mathews teaches receiving an item at the mobile device (Mathews ¶44 lines 8 – 11).

Mathews does not teach degrading the received item to reduce the amount of cache space needed to store it.

Chan teaches degrading the received item to reduce the amount of cache space needed and storing the received item in a degraded form instead of the un-degraded form (Chan Col. 10 lines 10 – 22 teach receiving an un-degraded item and degrading the item and Chan Col. 9 lines 3 – 5 teach storing the degraded item back into the cache). Chan teaches compressing the item after receiving the item. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Chan with Mathews since compressing an item after receiving the item allows for improved storage efficiency and improves processor efficiency (Chan Col. 10 lines 10 – 14). The compressed data requires less room than storage of uncompressed data and the processor does not have to decompress immediately received data.

As per claim 2:

Chan teaches initially storing the received item in an un-degraded form (Chan Col. 10 lines 16 – 18.) Chan teaches compressing the data before storage into main

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memory to improve processing efficiency upon the condition of the data being received is from an audio digitizing device (Chan Col. 10 lines 17 – 18.)

As per claim 3:

Mathews teaches determining the probability of usage of an item based on the user's progress around a space (Mathews ¶42.)

As per claim 5:

Chan teaches degrading a received item and the degradation of the received item being at least partially dependent on the available space (Chan Col. 10 lines 15 – 22 teach compression of the data after receiving the data. Chan Col. 2 lines 60 – 63 teach dynamically adjusting the reservable portion of the cache memory based on demand and availability directly affecting the memory available for received items.)

As per claim 6:

Chan teaches degrading the data upon receipt of the data (Chan Col. 10 lines 19 – 22 The item is received by the processor, but then degraded and stored so that the item is never stored in memory in an un-degraded form such as in the case when receiving digitized audio data from a peripheral device as in lines 17 – 18.)

As per claim 10:

Mathews teaches determining the probability of items dependent on a user's progress around the space (Mathews ¶42 The active caching process uses predictive algorithms to determine which cache items will be needed in the future.)

Mathews does not teach transforming the cached item by compression or degradation.

Chan teaches degrading the received item to reduce the amount of cache space needed and storing the received item in a degraded form instead of the un-degraded form (Chan Col. 10 lines 10 – 22 teach receiving an un-degraded item and degrading the item and Chan Col. 9 lines 3 – 5 teach storing the degraded item back into the cache). Chan teaches compressing the item after receiving the item. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Chan with Mathews since compressing an item after receiving the item allows for improved storage efficiency and improves processor efficiency (Chan Col. 10 lines 10 – 14). The compressed data requires less room than storage of uncompressed data and the processor does not have to decompress immediately received data.

As per claim 11:

Mathews teaches storing items associated with real world items and receiving means for receiving an item at the mobile device (Mathews ¶35 lines 24 – 36.)

Mathews does not teach degrading the item stored in the cache.

Chan teaches degrading the received item to reduce the amount of cache space needed and storing the received item in a degraded form instead of the un-degraded form (Chan Col. 10 lines 10 – 22 teach receiving an un-degraded item and degrading the item and Chan Col. 9 lines 3 – 5 teach storing the degraded item back into the cache). Chan teaches compressing the item after receiving the item. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Chan with Mathews since compressing an item after receiving the item allows for improved storage efficiency and improves processor efficiency (Chan Col. 10 lines

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10 – 14). The compressed data requires less room than storage of uncompressed data and the processor does not have to decompress immediately received data.

As per claim 12:

Chan teaches initially storing the item in an un-degraded form in the cache and subsequently degrading the item and storing it back into cache (Chan Col. 10 lines 16 – 22 and Chan Col. 9 lines 3 – 5 teach storing the degraded item back into the cache memory.)

As per claim 13:

Mathews teaches prediction means for determining the probability of usage of the item with regard to the user's progress around the space (Mathews ¶42 Particularly, lines 8 – 13 cite "historical requests" as a factor in the predictive algorithm.)

As per claim 15:

Chan teaches cache-space means for determining the amount of available cache space remaining and predetermined condition being at least partially based on cache-space demands. (Chan Col. 4 lines 14 – 30 teach portioning off cache based on space demands. Chan lines 19 – 22 also teach "the processor can then compress the data and store it in main memory without having to store it there in its uncompressed form.")

As per claim 16:

Chan teaches that the item is received and initially stored in the cache. The processor can then compress the item and store the compressed item back into the cache memory (Chan Col. 10 lines 15 – 22.)

As per claim 20:

Mathews teaches prediction means for determining the probability of usage of at least one item dependent on a user's progress around a space (Mathews ¶42 The active caching method uses predictive algorithms dependent on past user data.) Mathews selects the cached item based on the predicted demand for the cached item.

Mathews does not teach transforming means.

Chan teaches transforming the received item to reduce the amount of cache space needed and storing the received item in a degraded form instead of the un-degraded form (Chan Col. 10 lines 10 – 22 teach receiving an un-degraded item and degrading the item and Chan Col. 9 lines 3 – 5 teach storing the degraded item back into the cache). Chan teaches compressing the item after receiving the item. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Chan with Mathews since compressing an item after receiving the item allows for improved storage efficiency and improves processor efficiency (Chan Col. 10 lines 10 – 14). The compressed data requires less room than storage of uncompressed data and the processor does not have to decompress immediately received data.

7. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pre-Grant Publication 2003/0060973 (Mathews) and further in view of U.S. Patent 6,574,682 (Chan) and U.S. Pre-Grant Publication 2003/0236948 (Erdner).

8. As per claim 4:

Chan teaches that the data is stored in cache in an un-degraded form then degraded and stored in a degraded form.

The combination of Mathews and Chan does not teach using a time since last access trigger to degrade the item in cache.

Erdner teaches a cache replacement technique such that the least recently used cache items are replaced (Erdner Abstract.) While Erdner does not specifically teach degrading the item in response to a least recently used policy, Erdner teaches a response based on the time since the user last accessed a particular item. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine this feature of Erdner with Mathews and Chan since a least recently used cache selection policy gives a substantially evenly distributed replacement of ways over time (Erdner Abstract.)

As per claim 14:

Chan teaches that the data is stored in cache in an un-degraded form then degraded and stored in a degraded form.

The combination of Mathews and Chan does not teach using a time since last access trigger to degrade the item in cache.

Erdner teaches a cache replacement technique such that the least recently used cache items are replaced (Erdner Abstract.) While Erdner does not specifically teach degrading the item in response to a least recently used policy, Erdner teaches a response based on the time since the user last accessed a particular item. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine this feature of Erdner with Mathews and Chan since a least recently used

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cache selection policy gives a substantially evenly distributed replacement of ways over time (Erdner Abstract.)

9. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pre-Grant Publication 2003/0060973 (Mathews) and further in view of U.S. Patent 6,574,682 (Chan) and U.S. Pre-Grant Publication 2003/0115042 (Chen).

10. As per claim 7 and 17:

The combination of Mathews and Chan do not teach the limitation set forth in claims 7 and 17. Chen teaches a method effecting the degrading of the item comprising a sampled media stream by reducing the sampling rate (Chen ¶10 Chen teaches compression reducing the bit-rate of audio data.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Chen with Mathews and Chan since this feature of Chen allows for cheaper bit storage and when combined reduced the overall cost of the methods and apparatus of Mathews and Chan (Chen ¶10 lines 1 – 4).

Allowable Subject Matter

11. Claims 8 – 9 and 18 – 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

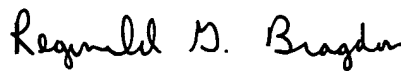
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory P. Hein whose telephone number is 571-272-4180. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Gregory Hein
1/27/2008


REGINALD G. BRAGDON
PRIMARY EXAMINER